Physical Assessment for Team Kalpana(2022ASI-049)

(By ASI, IN-SPACe & ISRO)

TESTING VIDEOS

Our Progress till CDR Stage

Accomplishments

Electronics

- Completed XBEE Communication testing. .
- The Ground Control System has been finished and is currently being tested.
- The PCB design is finished.
- Integration and testing of the gyroscope system with the CanSat system.

Mechanical

- Printing the CanSat's final prototype and conducting different tests.
- A brand-new gyro model has been proposed.
- Parachute testing done.
- Verification of descent rates using the competition's actual parachutes

Software

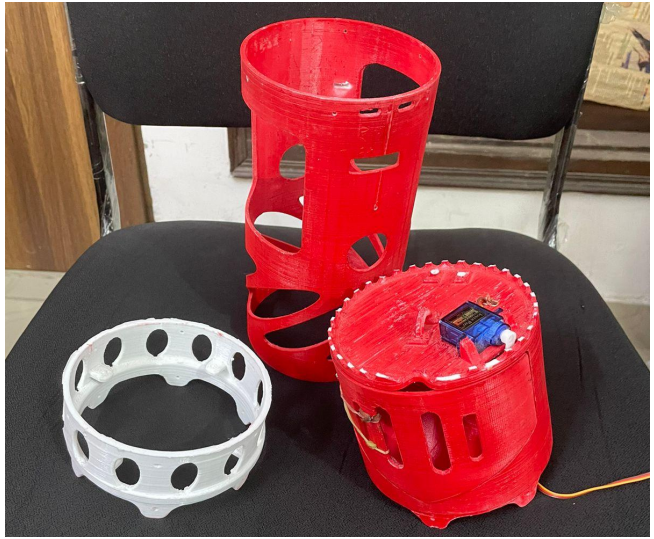
- Antenna was assembled and tested.
- Enhanced the general functionality of the GUI and removed unusable components to enhance the UI.
- The Cansat Algorithm is now completed.

Unfinished Work

- Integration of Electronics Board into CanSat.
- Procurement of PCB
- Parachute compartment is still in prototyping stage.
- More iterations on kill switch positioning.
- Integrating, testing, and fine-tuning the CanSat algorithm with the sensors.

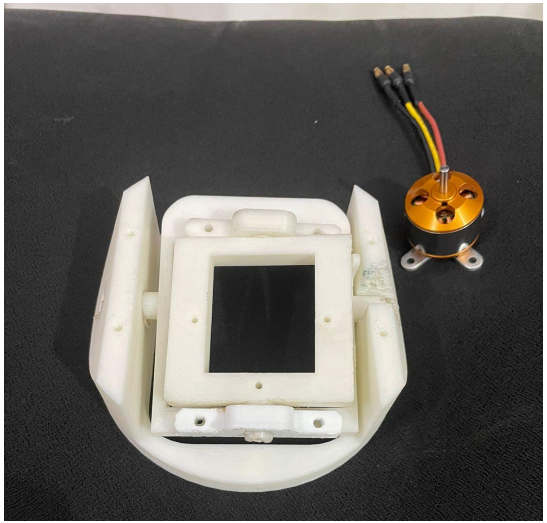
Model Inspection

Model Inspection - Mechanical



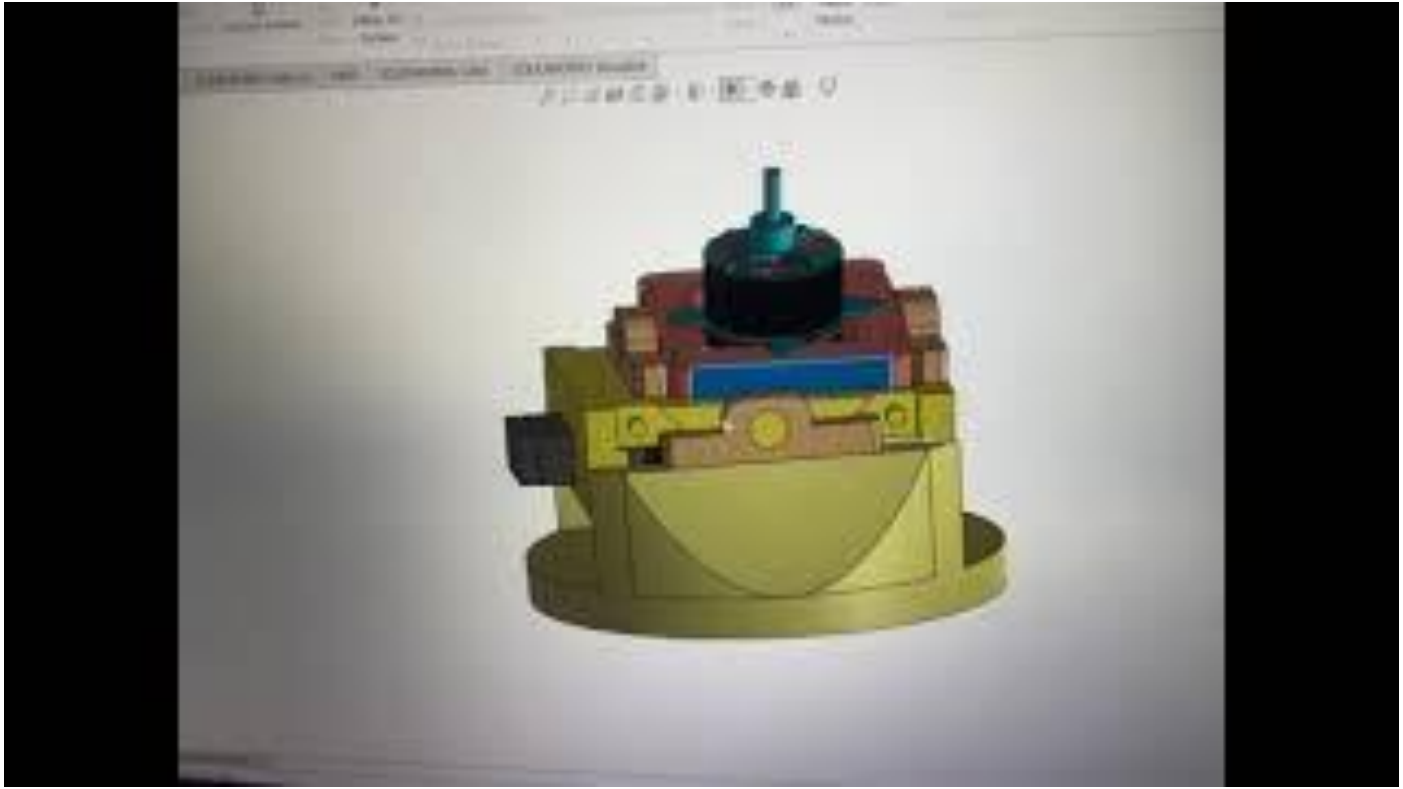
Prototypes of the Initial Design of CanSat

Model Inspection - Mechanical



Prototype of Initial Gyro Control Mechanism

Model Inspection - Mechanical



Model Inspection - Mechanical

Final 3D Printed Models with the Exception of Parachute Compartments

Model Inspection - Mechanical

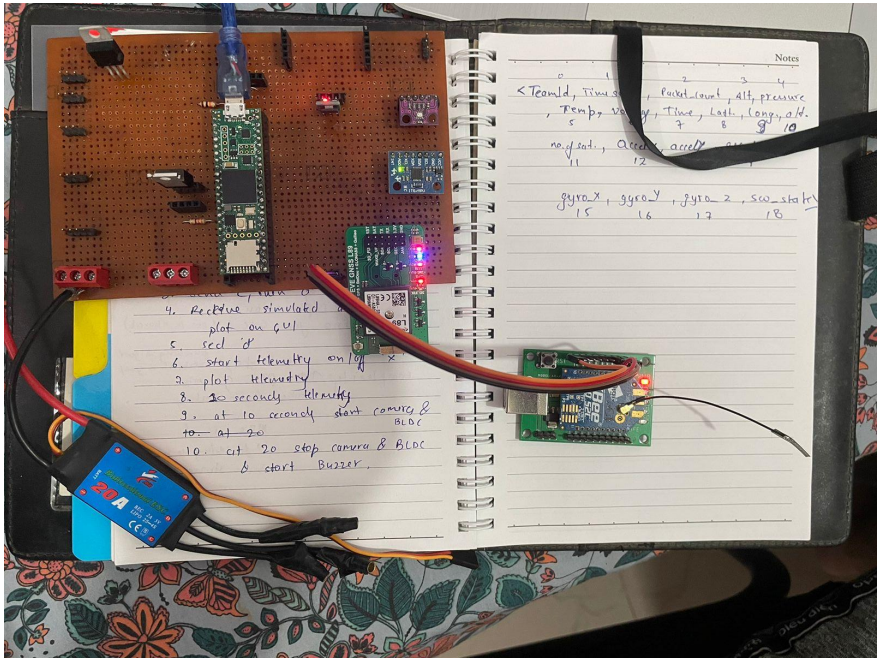
Assembled Configuration of CanSat model with the final 3D printed models(ABS)

Model Inspection - Mechanical

Assembled Configuration of New Gyro Control Mechanism with the final 3D printed models

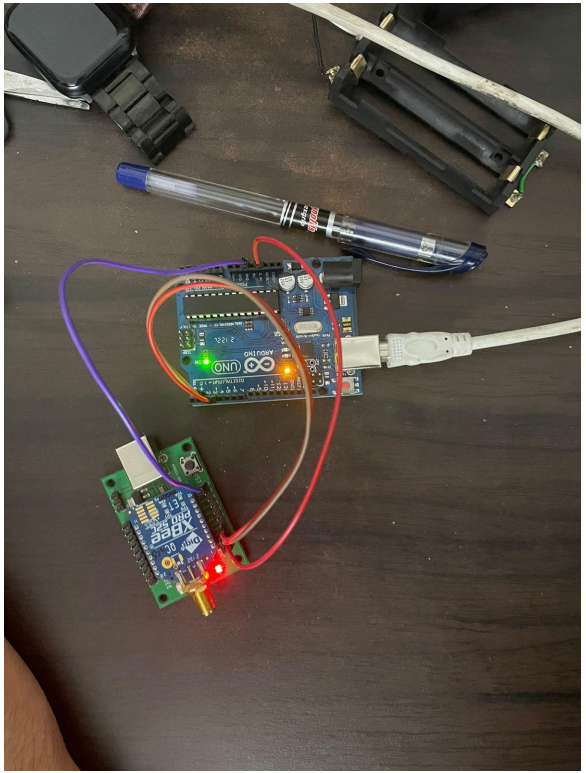
Model Inspection - Mechanical

Model Inspection - Electronics



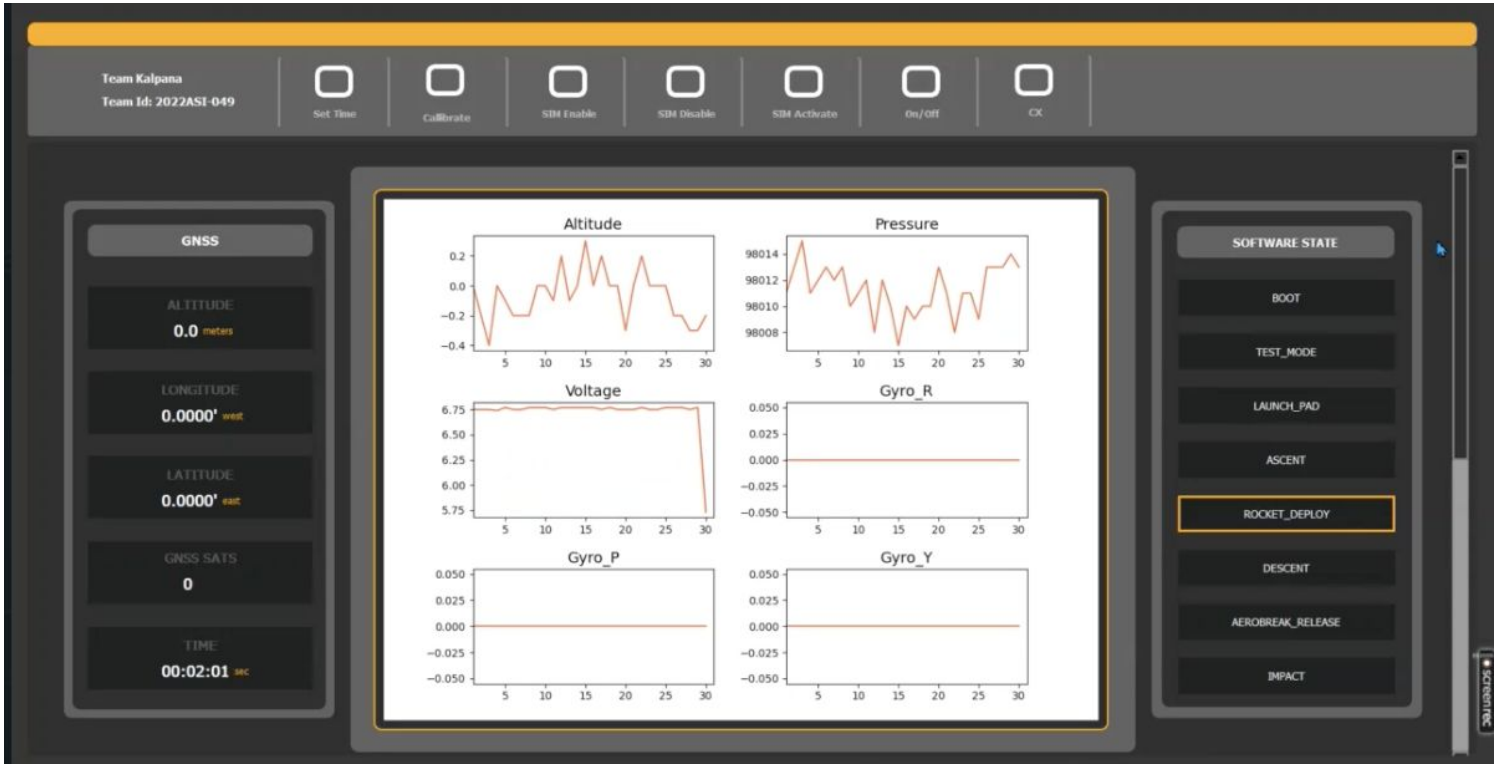
Perf Board Testing
&
Patch Antenna Testing

Model Inspection - Electronics



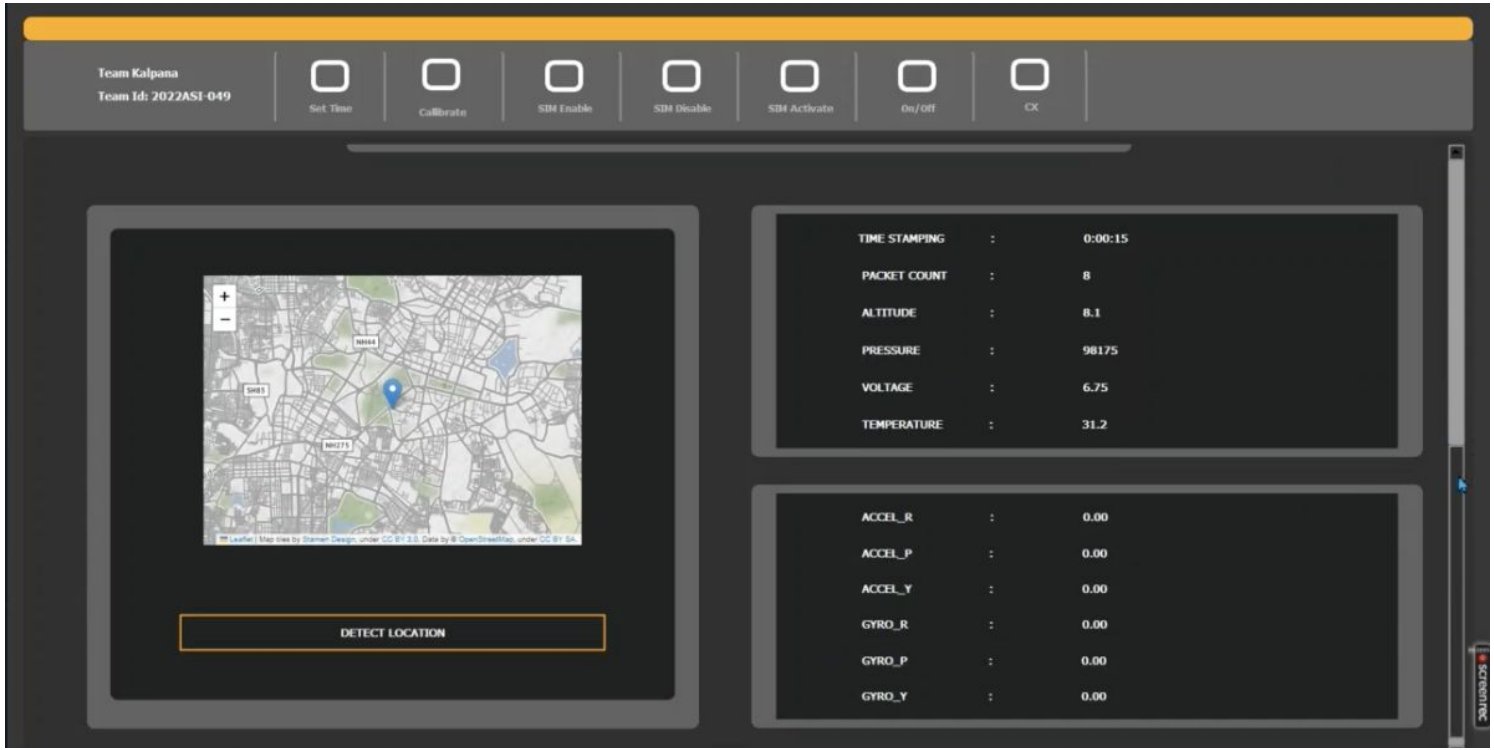
XBee and Patch Antenna Testing

Model Inspection - Software



- Software states updating
- Significant drop in voltage at rocket deployment stage as BLDC motor turns on

Model Inspection - Software



- Fields are updated in real time from the telemetry received
- Current location is also plotted on map

Model Inspection - Software

Telemetry stops at impact

Testing Video

CanSat Testing

THANK YOU

TESTING VIDEOS